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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Christopher M. Look

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EXAMINER

LEUNG, WAI LUN

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/785,617	Applicant(s) LOOK, CHRISTOPHER M.	
	Examiner DANNY W. LEUNG	Art Unit 2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 March 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-22 and 27-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-22 and 27-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20100408</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/20/2010 has been entered.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 13-22, and 27-31 rejected under 35 U.S.C. 103(a) as being unpatentable over **Graves et al.** (US006999677B2), in view of **Fee et al.** (US006980736B1).

Regarding claims 13 and 27, **Graves** discloses An apparatus comprising:
a wavelength switch module (WSM) (*fig 8, wavelength switches 12a,b,c...m; also shown in fig 6*) ;
an optical transceiver detachably coupled to the WSM (*fig 6, test source 130 and test receiver 132*), to send a first optical signal to the WSM and to detect a second optical signal received from the WSM after sending the first optical signal (*col 7, ln 11-16, a test path 144 is established between test source 130 and test receiver 132 to determine nature of the failure of the faulty switch; this testing procedure of injecting a first optical signal*

as a test signal into the switch module, and detecting a second optical signal output from the switch module under test to locate the fault is also done in the embodiment of fig 8, col 8, ln 62-col 9, ln 10), and

wherein the WSM is operable to send an interrupt in response to detection of a change in the first optical signal received from the optical transceiver (*col 8, ln 34-40, WSM compares input and outputs to detect a change in the first optical signal, and fed the result to processor 170 as an interrupt when a failure occur), ; and*

a set of one or more processors coupled to the WSM to automatically determine whether the second optical signal corresponds to the first optical signal in response to the interrupt from the WSM (*col 8, ln 49-66, processor 170 automatically determine failure in the switch in response to the results from the switch verification/equalization block 172).*

Graves does not disclose expressly wherein the optical transceiver comprises an encoder to put an identification into the first optical signal to send with the first optical signal to the WSM, and automatically determine whether the second optical signal corresponds to the first optical signal in response to the identification from the optical transceiver.

Graves contained a “base” device for verifying connectivity of a wavelength switch module by injecting a test signal to the wavelength switch module, and then determine if the output of the wavelength switch module corresponds to the test signal, and send an interrupt to a processor in response to a detection of a change in the test

signal so that a failure can be located (*col 8, ln 34-50*). This is analogous to applicant's invention as show in figure 1A, described in pages 8-9 of the specification as originally filed.

Fee contains a "comparable" device for verifying connectivity of a switch module (*fig 6, Optical Switch 410*), by having an optical transceiver detachably coupled to the switch module (*fig 6, transmitter 620 and receiver 420*), to send a first optical signal to the switch module and to detect a second optical signal received from the switch module after sending the first optical signal (*col 11, ln 42-61, supplemental signals received by signal detector 420 is compared to the supplemental signal injected by transmitter 620 to determine performance of the optical switch matrix 410*), wherein the optical transceiver comprises an encoder to put an identification into the first optical signal to send with the first optical signal to the switch module (*col 9, ln 27-30, the supplemental signal may comprise a unique tag that identifies the optical signal*); and

a set of one or more processors coupled to the switch module to automatically determine whether the second optical signal corresponds to the first optical signal in response to the identification from the optical transceiver (*col 11, ln 48-62, controller 404 determines performance of the optical switch based on the supplemental signals that has unique identifier tags*).

Fee's apparatus has been improved in the same way as the claimed invention of including a identification in the first optical signal being sent to the optical switch module, in which **Fee's** known "improvement" could have been applied in the same way

to the “base” process of **Graves** and the results would have been predictable and resulted in a switch protection module that can more precisely locate faulty equipment by determining whether the second optical signal corresponds to the first optical signal in response to the identification from the optical transceiver and the interrupt from the WSM.

Therefore, the claimed subject matter would have been obvious to a person having ordinary skill in the art at the time the invention was made. *See MPEP 2143 Section C*, and *KSR International Co. v. Teleflex Inc.*

As to claim 18, **Fee** further teaches the optical switch module as discussed above regarding claims 13 and 27 can be used in a system comprising: an optical network including a plurality of optical fibers (*fig 1, fibers 130*); and

a first optical network node, coupled to the optical network (*fig 1, node B coupled to the network*), the first optical network node comprising the optical switch module (*fig 3, node B comprises optical switch module 324, also illustrated in fig 4-7*) as discussed above in claims 13 and 27.

Therefore, it would have been obvious for a person of ordinary skill in the art at the time when the invention was made to apply the technique of verifying connectivity between an optical transceiver and a wavelength switch module as taught by **the combination of Graves and Fee** as discussed above, onto an optical network node in a known system comprising an optical network including a plurality of optical fibers such

as that of **Fee's**, and the result of being able to test the connectivity of an optical network node in an optical system would have been predictable to one of ordinary skill.

As to claims 14, 19, and 28, **Fee** further teaches wherein the WSM includes a variable optical attenuator to vary power of the first optical signal before the first optical signal exits the WSM, and the optical transceiver includes a light detector to measure power of the second optical signal to determine whether the power of the second optical signal changes in response to the first optical signal (*col 11, ln 57-62, supplemental signal detector 420 can monitor the amplitude of the supplemental signals to report changes in signal level which indicate increased attenuation applied by the switch. (i.e. it is inherent that the switch includes a variable optical attenuator because the attenuation of the optical signal passing through the switch can be increased)*).

As to claims 15, 20, and 29, **Fee** further teaches wherein the optical transceiver includes a decoder to check whether the second optical signal includes the identification (*col 9, ln 30-32*).

As to claims 16, 21, and 30, **Graves** further teaches wherein the WSM includes:
an input port (*fig 6, input port 140*);
an output port having a one-to-one correspondence with the input port (*fig 6, output port 142*) ; and
a channel coupling the input port to the output port, wherein the first optical signal enters the WSM at the input port, passes through the channel, and exits through the

output port (*fig 6, channel 144, light from test source enter switch under test from port 140, through the switch, exit through output 142, and into the receiver; (col 7, ln 11-16)*).

As to claims 17, 22, and 31, **Fee** further teaches wherein the optical transceiver comprises a light source, which is tunable to a wavelength designated to the channel (*col 9, ln 19-30, supplemental signals are generated by transmitter 318; col 10, ln 5-18, the supplemental signal may be generated at any wavelengths*).

Response to Arguments

4. Applicant's arguments with respect to claims 13-22, and 27-31 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents and patents applications are cited to further show the state of the art with respect to optical switched modules in optical networks in general, and will be used to support the same grounds of rejections as stated above in the event that any traversal may arise:

(US-20020044315 or US-20020027689 or US-20040017967 or US-20040052524 or US-20020080438 or US-20040190905 or US-20040208574 or US-20070147835 or US-20020126342 or US-20040008989 or US-20030174659 or US-20020163683 or US-20030152390 or US-20020018265 or US-20050074236 or US-20020041409 or US-20060045520 or US-20060013585 or US-20090034965 or US-20020131120 or US-20020109882 or US-20040042796 or US-20020109879 or US-20020015209 or US-20090080881 or US-20080050117) or (US-20070230954 or US-20070237521 or US-20060269282 or US-20060056843 or US-20060013584 or US-20050196165 or US-20050163503 or US-20040208510 or US-20020097682 or US-20040028056 or

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US-20040153566 or US-20050108444 or US-20020021472 or US-20020114035 or US-20020012143 or US-20020093712 or US-20030123876) or (US-7076163 or US-7046928 or US-6980711 or US-6965735 or US-5978113 or US-5452115 or US-5319482 or US-4809361 or US-6580531 or US-5844702 or US-6920287 or US-4994675 or US-7079715 or US-6973269 or US-6983109 or US-6417944 or US-6369926 or US-6590681 or US-6504969 or US-7039316 or US-6934472 or US-6826368 or US-5488501 or US-6137927 or US-7146103 or US-6246511) or (US-6973228 or US-7174066 or US-6801679 or US-6332055 or US-5970201 or US-5867289 or US-5627925 or US-5708753 or US-7212739 or US-7151893 or US-6798991 or US-6704508 or US-6507421 or US-7035537 or US-6738581 or US-6583901 or US-7426347 or US-5682257 or US-5559624 or US-5537393 or US-7065268 or US-7317875 or US-6229788 or US-7155127 or US-6101014 or US-6671469 or US-5920414) or (US-6574018 or US-4845703 or US-7039318 or US-7242861 or US-6721502 or US-5777761 or US-6868232 or US-6433900 or US-5539564 or US-5495358 or US-5679987 or US-5296850 or US-6999677 or US-7526200 or US-7266297 or US-6871021 or US-6957018 or US-5896212 or US-5166926 or US-5157654 or US-5130984 or US-6466343 or US-7376348 or US-7099578 or US-H002075 or US-7533254 or US-7474851) or (US-7239773 or US-6804463 or US-7398018 or US-5144297 or US-5521732 or US-7326916 or US-6810214 or US-7433362 or US-6215763 or US-5502587 or US-5535373 or US-5347384 or US-7372804 or US-7042559 or US-6987899 or US-6101010 or US-7120356 or US-6980736 or US-7099582 or US-6128115 or US-6959126 or US-7394983 or US-7664397 or US-4451916 or US-6005696 or US-7224706 or US-6587236) or (US-6933852)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANNY W. LEUNG whose telephone number is (571)272-5504. The examiner can normally be reached on 10:00am-8:00pm Mon-Thur.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on (571) 272-3078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DANNY W LEUNG
Examiner
Art Unit 2613

/D. W. L./
Examiner, Art Unit 2613
June 1, 2010

/Kenneth N Vanderpuye/
Supervisory Patent Examiner, Art Unit 2613